

### REMARKS

Reconsideration is respectfully requested.

The present Amendment attends to some minor antecedent basis inconsistencies in the claims that are not thought to affect the patentability of the application.

#### Paragraph 2 of the Office Action

Claims 1 through 18 have been rejected under 35 U.S.C. §112 (second paragraph) as being indefinite.

As a preliminary matter, claims 6 and 8 have been amended to change the term "writer" to "user", which is submitted to be consistent with the terminology of claim 1, and therefore it is submitted that the recitations of claims 6 and 8, particularly as amended, have suitable antecedent basis.

With respect to the assertions of indefiniteness in the language of the claims identified in paragraph 2 of the Office Action, section 2181 of the Manual of Patent Examining Procedure (hereinafter "MPEP") sets forth the basis for determining the compliance of a "means-plus-function" recitation in a claim with 35 U.S.C. 112 (second paragraph):

Although [35 U.S.C. 112, sixth paragraph] statutorily provides that one may use means-plus- function language in a claim, one is still subject to the requirement that a claim 'particularly point out and distinctly claim' the invention. Therefore, if one employs means-plus-function language in a claim, one must set forth in the specification an adequate disclosure showing what is meant by that language. If an applicant fails to set forth an adequate disclosure, the applicant has in effect failed to particularly point out and distinctly claim the invention as required by [35 U.S.C. 112, second paragraph].

*Donaldson*, 16 F.3d at 1195, 29 USPQ2d at 1850; see also *B. Braun Medical*, 124 F.3d at 1425, 43 USPQ2d at

1900; and *In re Dossel*, 115 F.3d 942, 946, 42 USPQ2d 1881, 1884-85 (Fed. Cir. 1997).

Manual of Patent Examining Procedure, Eighth Ed., §2181 (at page 2100-212) (emphasis added)

Thus, the determination of whether the "means-plus-function" recitation in a claim meets the 35 USC 112 (second paragraph) requirement of "particularly pointing out and distinctly claiming" the invention requires looking to the disclosure of the invention in the specification of the application.

The criteria for the use of "means plus function" language in a claim is set forth in the MPEP thusly:

Therefore, a means-(or step-) plus-function claim limitation satisfies 35 U.S.C. 112, second paragraph if: (A) the written description links or associates particular structure, materials, or acts to the function recited in a means- (or step-) plus-function claim limitation; or (B) it is clear based on the facts of the application that one skilled in the art would have known what structure, materials, or acts perform the function recited in a means- (or step-) plus-function limitation.

Manual of Patent Examining Procedure, Eighth Ed., §2181 (at page 2100-213)

In the case of a patent application having some similarities to the present case, and in which "means plus function" claims were rejected under 25 USC 112 (second paragraph), the Federal Circuit stated:

Thus the question in the case before us is not whether there has been compliance with some aspect of Section 112 Para. 1, but whether, in utilizing the authority of Section 112 Para. 6 to claim in means-plus-function form, the drafter has adequately described structure, material, or acts which satisfy the claiming requirement of Section 112 Para. 2. It is to that question we turn.

\*\*\*

The clause at issue in Claim 8 reads: "means for reconstructing the current distributions of the volume

elements which are situated on said surfaces on the basis of said measured values." The clause at issue in Claim 9 reads: "reconstruction means for determining the current distributions at said predetermined volume locations from said stored values." The function named in the means clauses of the claims involves "reconstructing" data, and the question is whether the structure underlying this "reconstructing" function is adequately described in the written description such that the invention is particularly pointed out and distinctly claimed.

[2] Neither the written description nor the claims uses the magic word "computer," nor do they quote computer code that may be used in the invention. Nevertheless, when the written description is combined with claims 8 and 9, the disclosure satisfies the requirements of Section 112 Para. 2. As the written description discloses, the clauses in question claim a device that receives digital data words from a memory and data input from a user. The device then computes, from the received data, the current distribution by mathematical operations including a matrix inversion or pseudo inversion, and then outputs the result to a display. While the written description does not disclose exactly what mathematical algorithm will be used to compute the end result, it does state that "known algorithms" can be used to solve standard equations which are known in the art.

*In re Dossel*, 42 USPQ2d 1881, 1885 (Fed. Cir. 1997) (emphasis added).

Therefore, it is submitted that in order to meet the 35 U.S.C. 112 (second paragraph) standard for "particularly pointing out and distinctly claiming" the invention, the specification of the present application merely has to disclose (in combination with the claims) adequate corresponding acts or structure for performing the function recited in the requirements of the claims that have been rejected in the Office Action.

Turning to the claims of the present application, and in particular to claim 1 which includes the recitation of "means for determining the apparent affective state of the user", it is submitted that the disclosure of the present application does disclose adequate

corresponding acts or structure for performing the function of "determining the apparent affective state of the user". The disclosure teaches that "[a]n information system may determine the apparent affective or emotional state of the user based upon a variety of sources of information" (Applicant's specification at page 7, lines 25 and 26). The determination of the apparent affective state of the user by the information system is described, for example, in the specification at page 12, lines 5 through 12. However, it should be appreciated that pages 8 through 10 of the specification include a detailed description of various factors or "sources of information" that may be considered in the determination by the information system.

With respect to the requirement of "apparent affective state" of the user and "how" it may be determined, a number of factors or characteristics relating to the user may be considered for determining the user's "apparent affective state". (As the information system may not be able to determine a user's subjective "actual" affective state of the user, one or more factors are monitored by the information system to determine the user's "apparent" affective state.) Various factors are described in some detail on pages 8 through 10 of the specification. For example, and not as a limitation as to what factors may be monitored, the specification describes factors such as the incidence and frequency of indicative words in the text inputted by the user, the appearance characteristics given the inputted text by the user, the characteristics or circumstances of the creation of the document into which the text is being inputted, and the manner in which the text is inputted into the input devices, to name but a few of the relevant factors that may be monitored.

With respect to the requirement of "apparent affective state" and "what" it is, the user's "apparent affective state" is equated at several points in the text of the specification with the apparent "emotional state" of the user (for example, at page 1, line 22 of the specification), and is described to include the emotions of "anger or frustration" (on page 8, lines 4 and 30 of the specification), "fear" (on page 9, line 11), "disgust" (on page 9, line 11), and "sadness" (on page 9, line 12), and may include "strong feelings" (on page 9, line 8) and "rash" actions (on page 8, line 22).

In view of these disclosures in the specification, it is submitted that claim 1 meets the standard for "particularly pointing out and distinctly claiming" this aspect of the invention. It is also submitted that the above discussion applies to the recitations of claims 9, 13, 15, and 17 of "determining the apparent emotional state" that is similar to the language of claim 1 reciting "the apparent affective state" of the user.

In regard to the objection to the recitation of "if the apparent affective state of the user indicates that the text should be marked" in claim 6 and "marking text if the apparent emotional state of the writer indicates that the text should be marked" in claim 9, it is noted that the specification at page 11, lines 12 through 15 (which references Figure 2 of the drawings) discloses that a change in the apparent affective state of the user from a previous apparent affective state leads to marking of the text. The change in the apparent effective state of the user is determined by monitoring one or more of the factors set forth on pages 8 through 10 of the specification. See, for example, the specification at page 12, lines 5 through 12, where the determination of the apparent affective state of the user is described.

With respect to the recitation of "means for prompting the user to confirm the desired transmission of text if the apparent affective state of the writer is questionable" of claim 8 and "the apparent emotional state of the writer is questionable" of claims 13, 15, and 17, it is submitted that the specification of the present application discloses what characteristics of the apparent affective state of the writer indicates that the affective state is "questionable". For example, the disclosure teaches (at page 8, line 3) that the presence of vulgar language or derogatory epithets in text inputted by the user makes the apparent affective state of the user questionable. As a specific example of one possible implementation of this, Figure 4 of the drawings, which form a part of the disclosure of the application, shows a text including the word "moron" that has indicated that the apparent affective state of the writer is questionable, and the writer is being prompted to confirm that the transmission of the text is desired (see also, for example, the reference to Figure 4 on page 12, lines 16 through 18).

Further, the disclosure teaches (at page 8, lines 10 through 12) that alteration by the user of various font characteristics of the inputted text, such as underlining the inputted text or changing the color of the inputted text or putting all or a major portion of the inputted text in capital letters, makes the apparent affective state of the user questionable.

These are but a few examples taken from the disclosure of factors that may indicate that the apparent affective state of the user is questionable. The disclosure also describes characteristics of or actions taken by the user that may also indicate that the apparent affective state of the user is questionable.

In conclusion, it is submitted that the claims, with consideration of the specification of the present application, contain an adequate description of the underlying structure, material or acts to satisfy the "particularly point out and distinctly claim" requirement of 35 USC 112 (second paragraph).

Withdrawal of the §112 rejection of claims 1 through 18 is therefore respectfully requested.

Claims 1 through 18 have not been rejected over the prior art of record, and in light of the recommendation in MPEP §2173.06 to raise any prior art rejections even when an indefiniteness in the claims is alleged to avoid a piecemeal examination of the application, it is submitted that claims 1 through 18 are in condition for allowance when the above remarks regarding the Section 112 (second paragraph) rejection of claims 1 through 18 are considered.

**Added claims 19 through 31**

Claims 19 through 31 have been added by this Amendment, and are submitted to also define over the prior art of record. Claims 19 through 31 find support in the specification particularly on pages 8 through 10.

Therefore, claims 19 through 31 are submitted to be allowable over the prior art.

**VERSION WITH MARKINGS TO SHOW CHANGES MADE:**

**In the Claims** (bracketed parts deleted and underline parts added):

1           1. (Pending) An information system under affective control,  
2 comprising:  
3           an application program with which a user is actively engaged;  
4           means for determining the apparent affective state of the user;  
5 and  
6           means for changing the operation of the application program  
7 responsive to the apparent affective state of the user.

1           2. (Pending) An information system under affective control as  
2 in claim 1, wherein said means for determining the apparent  
3 affective state of the user comprises a means responsive to at least  
4 one of user autonomic indicators and the facial expressions of the  
5 user.

1           3. (Pending) An information system under affective control as  
2 in claim 1, wherein said application program comprises means of  
3 user input.

1           4. (Pending) An information system under affective control as  
2 in claim 3, wherein said means for determining the apparent  
3 affective state of the user comprises a means responsive to at least  
4 one of user input characteristics and input content.

1           5. (Pending) An information system under affective control as  
2 in claim 3, wherein said user input is text.



1           6. (Amended) An information system under affective control  
2 as in claim 5, wherein said means for changing the operation of the  
3 application program comprises means for marking text if the  
4 apparent [emotional] affective state of the [writer] user indicates  
5 that the text should be marked.

1           7. (Pending) An information system under affective control as  
2 in claim 1, wherein said application program is a program for  
3 transmission to others of text composed by the user.

1           8. (Amended) An information system under affective control  
2 as in claim 7, wherein said means for changing the operation of the  
3 application program comprises means for prompting the user to  
4 confirm the desired transmission of text if the apparent [emotional]  
5 affective state of the [writer] user is questionable, means for  
6 receiving the user's response, and means for transmitting only on  
7 receipt of affirmative response.

1           9. (Pending) A method of processing text indicating the  
2 emotional state of the writer at the time of writing, comprising the  
3 steps of:

- 4           (a) accepting text input from the writer;  
5           (b) determining the apparent emotional state of the writer;  
6           (c) marking text if the apparent emotional state of the writer  
7 indicates that the text should be marked; and  
8           (d) outputting marked text, thereby indicating the apparent  
9 emotional state of the writer.

1           10. (Pending) The method of processing text as set forth in  
2 claim 9, wherein said step of determining the apparent emotional  
3 state of the writer is performed by monitoring at least one of the  
4 writer's text input characteristics, text content, writer autonomic  
5 indicators and the facial expressions of the writer.

1           11. (Pending) The method of processing text as set forth in  
2 claim 9, wherein said step of accepting text input from the writer  
3 comprises receiving text manually input by the writer into a text  
4 input device and said step of determining the apparent emotional  
5 state of the writer is performed at least in part by determining the  
6 force used by the writer in manually inputting text into the input  
7 device.

1           12. (Pending) The method of processing text as set forth in  
2 claim 9, wherein said step of accepting text input from the writer  
3 comprises speech input by the writer and said step of determining  
4 the apparent emotional state of the writer is performed at least in  
5 part by analyzing the characteristics of the writer's speech input.

1           13. (Amended) A method of conditional transmission of a  
2 message to at least one recipient based upon the apparent emotional  
3 state of the writer, comprising the steps of:

4           (a) receiving an instruction to transmit a message from a  
5 writer;

6           (b) determining the apparent emotional state of the writer;

7           (c) if the apparent emotional state of the writer is  
8 questionable, warning the writer and prompting the writer to  
9 confirm that the message should be sent;

10           (d) allowing transmission of the message only upon  
11 confirmation by the writer that the first message should be sent.

1        14. (Pending) The method of conditional transmission of a  
2 message according to claim 13, wherein said step of determining the  
3 apparent emotional state of the writer comprises analyzing at least  
4 one of the intended recipients of the message, message content,  
5 writer autonomic indicators and the facial expression of the writer.

1        15. (Amended) A method of receiving and conditionally  
2 responding to a received message based upon the apparent emotional  
3 state of the respondent, comprising the steps of:

4        (a) receiving a message;

5        (b) presenting the received message to a respondent;

6        (c) receiving a proposed response to the received message  
7 from the respondent along with a request to transmit the proposed  
8 response to proposed recipients;

9        (d) determining the apparent emotional state of the  
10 respondent;

11        (e) if the apparent emotional state of the respondent is  
12 questionable, warning the respondent and prompting the respondent  
13 to confirm that the proposed response should be sent to the proposed  
14 recipients; and

15        (f) allowing transmission of the response to the recipients  
16 only upon confirmation by the respondent that the response should  
17 be sent to the recipients.

1        16. (Pending) The method of receiving and conditionally  
2 responding to a received message according to claim 15, wherein  
3 said step of determining the apparent emotional state of the writer  
4 comprises analyzing the time elapsed between the step of presenting  
5 the received message to the respondent and the step of receiving a  
6 proposed response to the received message.

1           17. (Amended) A method of conditional transmission of a  
2 message to at least one recipient based upon the apparent emotional  
3 state of the writer, comprising the steps of:

4           (a) receiving a proposed message from a writer along with a  
5 request to transmit the proposed message to proposed recipients;

6           (b) determining the emotional state of the writer;

7           (c) if the apparent emotional state of the writer is  
8 questionable, warning the writer and prompting the writer to  
9 confirm that the proposed message should be sent to the proposed  
10 recipients; and

11           (d) allowing transmission of the message to the recipients only  
12 upon confirmation by the writer that the message should be sent to  
13 the recipients.

1           18. (Amended) The method of conditional transmission of a  
2 message according to claim 17, wherein said step of receiving a  
3 proposed message comprises monitoring [the] input characteristics  
4 of the writer and said step of determining the emotional state of the  
5 writer comprises analyzing the input characteristics of the writer.

          Please add the following claims:

1           19. (Added) An information system, comprising:  
2           an application program for engaging by a user;  
3           means for monitoring factors relating to an emotional state of  
4 the user; and  
5           means for changing the operation of the application program  
6 responsive to the emotional state of the user.

1        20. (Added) The information system of claim 19 wherein the  
2 means for monitoring the factors relating to the emotional state of  
3 the user includes means for monitoring characteristics of text  
4 inputted into the application program by the user.

1        21. (Added) The information system of claim 20 wherein the  
2 means for monitoring characteristics of text inputted includes means  
3 for monitoring the incidence of indicative words in the inputted text  
4 indicating the emotional state of the user.

1        22. (Added) The information system of claim 20 wherein the  
2 means for monitoring characteristics of text inputted includes means  
3 for monitoring a frequency of indicative words in the inputted text  
4 indicating the emotional state of the user.

1        23. (Added) The information system of claim 20 wherein the  
2 means for monitoring characteristics of text inputted includes means  
3 for monitoring appearance characteristics of the inputted text  
4 indicating the emotional state of the user.

1        24. (Added) The information system of claim 19 wherein the  
2 means for monitoring the factors relating to the emotional state of  
3 the user includes means for monitoring characteristics of creation of  
4 a document by the text inputted by the user.

1        25. (Added) The information system of claim 24 wherein the  
2 means for monitoring the characteristics of creation of the document  
3 includes means for monitoring a length of time for creation of the  
4 document by the user prior to completion of the document.

1        26. (Added) The information system of claim 24 wherein the  
2 means for monitoring the characteristics of creation of the document  
3 includes means for monitoring a length of the document created by  
4 the user.

1        27. (Added) The information system of claim 24 wherein the  
2 means for monitoring the characteristics of creation of the document  
3 includes means for monitoring the number of intended recipients of  
4 the document created by the user.

1        28. (Added) The information system of claim 24 wherein the  
2 means for monitoring the characteristics of creation of the document  
3 includes means for monitoring an identity of intended recipients of  
4 the document created by the user.

1        29. (Added) The information system of claim 19 wherein the  
2 means for monitoring the factors relating to the emotional state of  
3 the user includes means for monitoring characteristics of the user as  
4 the user inputs text into the application program.

1        30. (Added) The information system of claim 29 wherein the  
2 means for monitoring characteristics of the user includes means for  
3 monitoring a force exerted by the user on a manual input device as  
4 the user inputs text.

1        31. (Added) The information system of claim 29 wherein the  
2 means for monitoring characteristics of the user includes means for  
3 monitoring the characteristics of the voice of the user as text is  
4 inputted via a voice recognition application program.

**CONCLUSION**

In light of the foregoing amendments and remarks, early reconsideration and allowance of this application are most courteously solicited.

Respectfully submitted,

*Scott Charles Richardson / for*

*reg. no. 43,436*

Date: Jan 30, 2003

Ivar M. Kaardal (Reg. No. 29,812)  
KAARDAL & ASSOCIATES, P.C.  
3500 South First Avenue Circle, Suite 250  
Sioux Falls, SD 57105-5802  
(605)336-9446 FAX (605)336-1931  
e-mail patent@kaardal.com